UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant:	William A. Welsh
Serial No.:	10/685,215
Filed:	October 14, 2003
Group Art Unit:	3682
Examiner:	Johnson, Vicky A.
Title:	***ACTIVE FORCE GENERATION SYSTEM FOR MINIMIZING VIBRATION IN A ROTATING SYSTEM***

Commissioner for Patents
Mail Stop Appeal Brief-Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Dear Sir:

Appellant submits this Appeal Brief pursuant to the Notice of Appeal filed 1 October 2007 and the Notice of Panel Decision from Pre-Appeal Brief Review.

REAL PARTY IN INTEREST

The real party in interest is **Sikorsky Aircraft Corporation**, assignee of the present invention.

RELATED APPEALS AND INTERFERENCES

There are no prior or pending appeals, interferences or judicial proceedings related to, may directly affect or may be directly affected by or have a bearing on the Board's decision in this appeal.

STATUS OF CLAIMS

Claims 22 and 25-27 are pending, rejected and appealed.

Claims 1-10 were cancelled.

Claims 11-21 and 23-24 were withdrawn.

STATUS OF AMENDMENTS

All amendments have been entered.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates generally to vibration isolators, and more particularly, to an isolation system for minimizing in-plane vibrations produced in a rotating system of a rotary-wing aircraft.

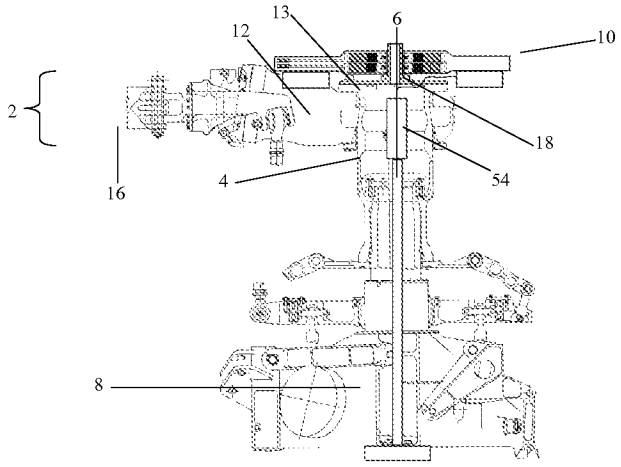


Figure 2

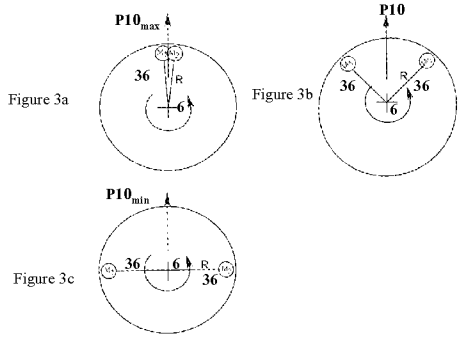


Figure 3a Figure 3b Figure 3c

Figure 3

Independent claim 22 recites:

A vibration isolation system [10] for reducing vibrations in a rotating system[2] rotatable about an axis of rotation [6], comprising:

a multiple of independently rotatable masses [M1 M2] coaxially disposed about an axis of rotation [6] of a rotating system; [p.6, lines 17-21]

a drive system [30] interconnected to each of said multiple of independently rotatable masses [M1 M2] to independently rotate each of said multiple of independently rotatable masses [M1 M2] about said axis of rotation; and [p. 6, lines 17-21]

a control system [40] in communication with said drive system [30] to control an angular velocity of at least one of said multiple of independently rotatable masses [M1 M2] to reduce in-plane vibration of the rotating system [2]. [Figures 2 and 3; Page 3, lines 24-25; Page 4, lines 10-13].

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 22 and 25-27 remain rejected under 35U.S.C. §102(b) as being anticipated by *Ueda* (JP 61164109).

ARGUMENT

§102(B) REJECTIONS

Ueda fails to anticipate claims 22 and 25-27

Ueda fails to anticipate claims 22 and 25-27 for numerous fundamental reasons which are discussed below, any one of which renders the entire rejection improper.

No Translation (Examiner Must Rely only Upon Abstract)

Ueda is in Japanese. Only an English Abstract is provided.

Abstract of JP61164109

PURPOSE:To highly accurately measure angular velocities with a small-sized constitution, by detecting the angular velocities through the change in characteristic-frequency. CONSTITUTION:The intrinsic mode of a vibrator 20 is detected by means of driving electrodes 34a and 34b and detecting electrodes 35a and 35b and the electrodes 35a and 35b and a mass member constitute an electrostatic capacity. A filter 37 extracts the characteristic-frequency of the vibrator 20. When a phase meter 38 determines the phase difference between the vibration of the mass and the output of an AGC circuit 39, the AGC circuit 39 transmits a constant voltage Es. The AC voltage Es of the AGC circuit 39 is supplied to the electrode 34a and the DC voltage of a DC power source 44 is supplied to the electrode 34b. The AC voltage of the AGC circuit 39 is also sent to a phase difference detecting circuit 46 constituting an arithmetic section which calculates the magnitude and direction of angular velocities applied to the vibrator 20. The circuit 46 detects the phase difference between the signal of a reference frequency supplying means 45 and signal of the AGC circuit 39. Then a computer 47 corrects the values, and thus, rotational angles and angular velocities are obtained.

Furthermore see MPEP 706.02.II (in pertinent part):

> To determine whether both the abstract and the underlying document are prior art, a copy of the underlying document must be obtained and analyzed. If the document is in a language other than English and the examiner seeks to rely on that document, a translation must be obtained so that the record is clear as to the precise facts the examiner is relying upon in support of the rejection. The record must also be clear as to whether the examiner is relying upon the abstract or the full text document to support a rejection.

The Examiner is apparently relying only upon the abstract as no English translation of the underlying document has been provided.

> An abstract and the underlying document of which it is a summary are distinct documents. In a rejection, an abstract stands on its own--it does not incorporate by reference any disclosure of the underlying document. Abstracts are often not written by the author of the underlying document, and may be erroneous or misleading--in virtually all cases, they are incomplete.
>
> Generally an abstract does not provide enough information to permit an objective evaluation of the validity of what it describes. Thus, an abstract is even less reliable a basis to extrapolate the alleged teachings of the underlying document to different circumstances. Abstracts function to alert a reader to disclosures of possible interest. They are little more reliable than headlines or brief newspaper articles.

> Citation of an abstract without citation and reliance on the underlying scientific document itself is generally inappropriate where both the abstract and the underlying document are prior art. It is our opinion that a proper examination under 37 CFR Section 1.104 should be based on the underlying documents and translations, where needed. Accordingly, the preferred practice is for the examiner to cite and rely on the underlying document.
>
> See *Ex parte Gavin*, 62 U.S.P.Q.2D (BNA) 1680

Without a translation of the underlying document, the Examiner's rejection is inappropriate. Furthermore, the exceedingly minimal abstract prevents Appellant the opportunity to further refute the Examiner's contentions and even prevents an objective evaluation of what the Examiner purports the reference describes. This is fatal to the Examiner's rejection.

Elements 21a and 21b not described in Abstract

The Examiner's asserts that elements 21a and 21b are independently rotatable masses [07-17-2207 Office Action p. 3].

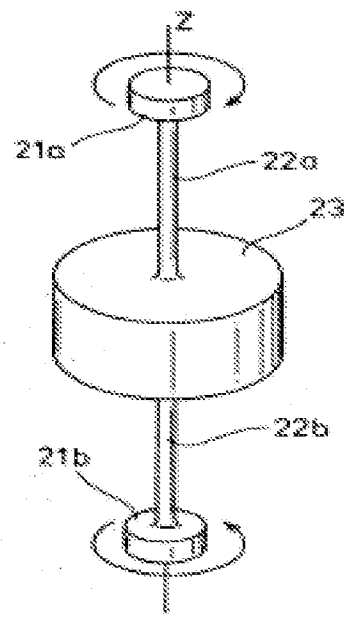
> Ueda et al disclose a vibration isolation system for reducing vibrations in a rotating system rotatable about an axis of rotation, comprising: a multiple of independently rotatable masses (21a, 21b) coaxially disposed about an axis of rotation of a rotating system (see Fig 6); a drive system interconnected to each of said multiple of independently rotatable masses to independently rotate each of said multiple of independently rotatable masses about said axis of rotation (see Fig 6); and a control system in communication with said drive system to control an angular velocity of at least one of said multiple of independently rotatable masses to reduce in-plane vibration of the rotating system (abstract).

This assertion simply cannot be fairly determined by the English abstract alone as elements 21a and 21b are not even mentioned therein. That is, the Examiner relies upon pure supposition as elements 21a and 21b are not in the English Abstract. This is fatal to the Examiner's rejection.

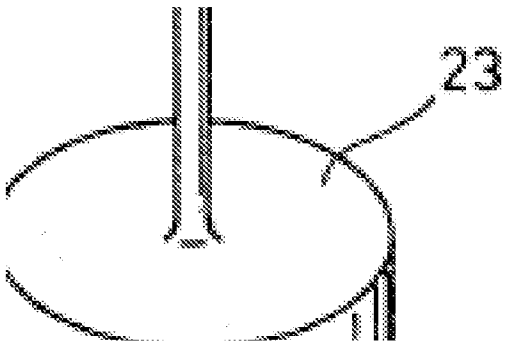
Figure 6

The Examiner's reference to Figure 6 [07-17-2207 Office Action p. 3] is also in no way dispositive as it appears from Figure 6 (reproduced below) that the elements 21a and 21b are ***affixed*** to respective shafts 22a and 22b which are affixed to element 23. That is element 21a and 21b under no proper interpretation may be considered independently rotatable masses.

第 6 図



As illustrated, the interface between 22a and 23 does not show any structure which provides for rotation. In fact, Figure 6 appears to illustrate a solid interface.



Such a solid interface is also consistent with the title of the reference: **VIBRATION TYPE** ANGULAR VELOCITY METER. A solid interface is certainly a more supportable argument

than the Examiner's as the abstract does recites that the entire unit to which the Examiner refers in *Ueda* is a *vibrator 20* [see Ueda Figure (a)] rather than a rotating system as argued by the Examiner.

Title of Reference

The title of *Ueda*, VIBRATION TYPE ANGULAR VELOCITY METER, further supports Appellant's argument that *Ueda* is **not** concerned with vibration isolation but only measurement thereof. The Examiner's rejection is based entirely on supposition.

CONCLUSION

For the above reasons, the rejections by the Examiner should be reversed. The Commissioner is authorized to charge the $500 filing fee to Deposit Account No. 19-2189.

Respectfully Submitted,

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CLAIMS APPENDIX

22. A vibration isolation system for reducing vibrations in a rotating system rotatable about an axis of rotation, comprising:

a multiple of independently rotatable masses coaxially disposed about an axis of rotation of a rotating system;

a drive system interconnected to each of said multiple of independently rotatable masses to independently rotate each of said multiple of independently rotatable masses about said axis of rotation; and

a control system in communication with said drive system to control an angular velocity of at least one of said multiple of independently rotatable masses to reduce in-plane vibration of the rotating system.

25. The system as recited in claim 22, wherein said drive system rotates at least one of said multiple of independently rotatable masses in a direction opposite to the direction of rotation of said rotor system.

26. The system as recited in claim 22, wherein said drive system rotates at least one of said multiple of independently rotatable masses at an angular velocity greater than an angular velocity of said rotor system.

27. The system as recited in claim 22, wherein said control system utilizes a phase angle from a power source as a phase angle reference to said control system.

RELATED PROCEEDINGS APPENDIX

There are no related proceedings.

RELATED EVIDENCE APPENDIX

None.